# A STUDY TO DETERMINE THE PREVALENCE OF ALCOHOL ABUSE IN EASTERN KENTUCKY

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A Thesis

Presented to

the Faculty of the School of Education

Morehead State University

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In Partial Fulfillment

of the Requirements for the Degree of

Education Specialist in Guidance Counseling

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by

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April 10, 1989

Accepted by the faculty of the School of Education. Morehead State University, in partial fulfillment of the requirements for the Guidance Counseling Education Specialist degree.

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April 30, 1989

ABSTRACT

# A STUDY TO DETERMINE THE PREVALENCE OF ALCOHOL ABUSE IN EASTERN KENTUCKY

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Morehead State University, 1989

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The present survey attempts to determine the prevalence of the abuse of alcohol as perceived by a selected group of junior high school students. The survey solicited responses pertaining to whether or not students believed that one or both of their parents may have a problem with alcohol. A total of 114 seventh and eighth grade students volunteered to take part in the survey. The survey instrument consisted of 30 questions designed to determine the percentage of students who believe a drinking problem may exist in their homes. The survey also examined whether drinking by parents had caused the students to experience personal problems not experienced by children of non-drinking parents.

The percentage of the students responding in the affirmative was determined for each separate response on the survey. An average was calculated for the seventh grade responses and another for the eighth grade

responses. These two scores were then averaged to get a total percentage of "Yes" responses.

The findings of the survey results were then compared to similar studies with some unsettling differences. For instance, question number one on the present survey asks, "Have you ever thought that one of your parents had a drinking problem?" The seventh graders responded "yes" 30.5 percent of the time, while 40 percent of the eighth graders said "yes", for a total of 35.3 percent. In comparison, Keller and Gurioli (1976) estimate that only 4 percent of the general population abuse alcohol.

The impact of alcohol on the lives of young people cannot be overestimated. If the results of the present survey are any indication of the severity of the problem, especially in Floyd County, Kentucky, then it is apparent that the problem exists in almost epidemic proportions.

Accepted by: William J. Weber, Chairman

Jean Wilson

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TABLE OF CONTENTS

# TABLES

Table

## SCOPE OF THE PROBLEM

"So a few people have a few too many once in a while. What's the big problem?" To paraphrase R. Fox, M.D. New York State Journal of Medicine (1959, pp. 1 - 2): Suppose a new and fatal disease were to strike with terrible force across America. Suppose it had so harmful an effect on the nervous system that ten million citizens would go insane for periods lasting from a few hours to permanently, and during these spells of insanity commit acts of so destructive a nature that the lives of whole families would be in jeopardy, with a resultant fifty million persons actually effected. Work in business, industry, and professions would be sabotaged or left undone, at a cost of nineteen billion dollars yearly. Finally, let us imagine this disease to have the peculiar property of so altering a person's judgment that he would be unable to see that he had become ill at all; actually so perverting his view that he would wish with all his might to go on being ill. This disaster would surely be treated as a national disaster, and billions of dollars and thousands of scientists would be put to work to find the cause of this disease, to treat its victims, and to prevent its spread.

In the late 1960s and early 1970s there was a big scare about drug abuse, particularly its use by youth. Yet in 1973 the National Commission on Marijuana and Drug Abuse concluded that alcohol dependence is without question the most serious drug problem in this country today. In 1976 a federal investigation concluded that alcohol abuse was also the major drug problem among the military. Alcohol misuse is one and a half times the problem that nicotine use is and at least forty times the

problem that heroin is. The First Special Report to the United States Congress on Alcohol and Health (p. 21) in 1971 pointed out that many drug experts considered alcohol abuse a more significant problem than all other forms of drug abuse combined.

So dramatic are these facts and so contrary to what Americans have believed, that it has become common for lecturers to bore their audiences with lengthy statistics about the magnitude of alcohol problems. Such statistics have not been heard in the land since pre-prohibition campaigns. Even reasonably well-informed people do not realize the extent to which alcohol use and misuse pervade every aspect of American life: social, economic, political, medical, legal, historical, moral, and emotional. "Once you poke your nose into these issues, the problems seem to explode in your face." (Royce, 1981).

Some decades ago, alcohol misuse was considered to be our fourth biggest health problem. Later, when heart attacks and strokes had been combined into a single category of cardiovascular disorders, alcohol was ranked third after this and cancer as a killer. It was called "the number one health problem, which emphasizes the social complications of alcohol misuse in traffic, industrial, and other problems. After all, cancer rarely causes one to cross the highway center line to wipe out a carload of innocent people." (Wagenaar, 1982, p. 15).

Alcohol is now being recognized as the number one killer in America. "We know that a great number of deaths once attributed to accidents and to physical illnesses such as heart or liver failure, acute pancreatitis, internal hemorrhaging, and the like should really be counted as alcohol deaths. This is especially true of

women." (Hornik, 1978, p. 32). Even most of the skid-row deaths that are attributed to malnutrition and pneumonia could legitimately be said to be caused by alcoholism. (Ashley, 1976). Our major health expense may well be the mountain of medical bills for nonfatal injuries and illness, sometimes lifelong, caused by alcohol misuse. Half the patients in some county hospitals are alcoholics, and 15 percent in the general wards of other hospitals. The Veterans Administration alone estimates that "there are three million alcoholic veterans, the largest group in VA hospitals, costing the taxpayers nearly one billion dollars a year." (Berry and Boland, 1976).

"Lengthy treatises - to some more boring as the statistics themselves - have been written about the problem involved in trying to compile figures on alcoholism, and about the fallacies involved in the figures gathered. Vagueness of definition and a lack of standard criteria for alcoholism are complicated by our society's emotional attitudes toward the misuse of alcohol and consequent tendencies to gloss over it." (Royce, 1981, p. 21). Some apparent increases in the estimates of the numbers of alcoholics may be a reflection of better methods of case findings and reporting, along with the new willingness to face alcohol problems openly and without disguise, especially among women.

Estimates of the extent of alcohol abuse based on arrests and court convictions can be misleadingly low. Arresting officers will often settle for lesser charges, such as reckless driving, because there is a better chance of proving the charge in court. More severe penalties seem to predispose a jury toward acquittal. In one state (Michigan) a team of researchers followed up independently of the police on auto accidents where alcohol was a

suspected factor, uncovering many facts that point to prior drinking as a cause, even though it never became a matter of police record. (Coakley and Johnson, 1978).

Often neglected in such discussions are the figures from the National Safety Council on the role of alcohol in death and injury other than by automobile. A third of industrial and home accidents, and an unknown but high number of boat and small plane deaths and injuries occur after drinking. Commercial pilots are rigidly monitored, but the Federal Aviation Commission (FAA) has no effective means of checking private planes. People who are used to boats and are around them all the time don't fall down and drown in the wee hours because they have been drinking milk all Saturday night. "Not drunk or an alcoholic, the man who has a few beers before climbing the ladder to paint his house may dull his sense of balance just enough to cause a broken neck, but will not be reported as alcohol related." (Wechsler, 1969, p. 65).

"One of the most frustrating results of a review of the literature is to find twenty pages of tables and figures about drinking to one page on alcoholism. Granted, drinking is a factor in alcoholism; but one would suspect that the difference in availability of statistics has more to do with ease of fact-gathering than relative importance. Rates on per capita consumption of alcohol do not necessarily reveal rates of alcoholism. Orthodox Jews, Greeks, and wine-drinking southern Italians have low rates of alcoholism (not zero, as is mistakenly thought) but relatively high rates of alcohol consumption." (Heath, 1975, p. 29). Some Scandinavian and other northern countries have high rates of alcoholism without overall per capita consumption of alcohol ranking equally high. High consumption rates for convention and vacation

cities do not necessarily mean high alcoholism rates for the local citizens. Moreover, consumption data must be adjusted to proportion of available income (after taxes) spent on alcoholic beverages. This consumption in proportion to available income may actually decrease while total per capita consumption increases, as happened in the United States over the past several decades. (Efron, 1974), giving a different picture as to the relative value placed on alcoholic beverages from that by mere amounts consumed.

A minor irritation is that statistics on rates of alcoholism among adults do not use a uniform age base. Thus some figures are based on all people over 21, others on those over 20, and some on those over 18 or even 15, making comparisons difficult. Lastly, since research takes time to compile and this is a rapidly changing field, the latest figures are bound to be obsolete before the ink is dry (Keller and Gurioli, 1976).

One method of estimating the percentage of alcoholics in a given population has been the formula developed by E. M. Jellinek (Haggard and Jellinek, 1945) based on deaths from cirrhosis of the liver; although Jellinek himself repudiated the old formula (1950). Not all cirrhosis is due to alcoholism, and not all alcoholics develop cirrhosis. In addition, there are problems of reporting accurately, consistently from state to state, and even honestly. Autopsies are performed in only a small fraction of the total deaths. Although the formula takes this into account, its reliability is questionable on sampling grounds alone if only 5 percent of liver cirrhosis is reported, as one pathologist in a large hospital estimates. In general, the formula tended to estimate only late-stage, organically deteriorated

alcoholics. Keller (1975) describes the history and difficulties of the Jellinek formula, arguing for restriction of the term alcoholic to those with physical addiction. The formula reads:

$$A=[\frac{P.D}{K}]=R$$

A = the number of alcoholics alive in a given year

P = the percentage of liver cirrhosis deaths attributable to alcoholism, a presumed constant which Jellinek originally calculated at 51.5% for males and 17.7% for females, but revised to 62.8% and 21.6% respectively

D = the number of reported deaths from liver cirrhosis in a given year; use only the federal vital statistics, for uniformity

K = the percentage of all alcoholics with medical complications who die of cirrhosis of the liver, which Jellinek calculated by multiplying 9% of alcoholics with liver cirrhosis by 7.71% who had died from it, equals .00694, presumed a constant

R = the ratio of all alcoholics to those alcoholics with medical complications, originally estimated at 4 but revised to 5.3 by Jellinek

As noted above, the Jellinek formula tended to underestimate the number of alcoholics. Other methods that yield low figures are those based on deaths reported as due to alcoholism, and those based on data from treatment or medical centers. Such statistics indicate only those alcoholics who contact some agency where they are officially diagnosed as alcoholics, thereby losing those who are not so diagnosed for a variety of reasons, and those who do not come to the attention of these agencies.

Polling practitioners such as physicians, social workers, and clergymen regarding prevalence of alcoholism in their clientale may not be very reliable, but it is useful to uncover those who do not get counted in data from agencies explicitly designated as serving alcoholics. Criminal justice system and per capita consumption data have been mentioned, in spite of difficulties, they can indicate prevalence, increases, and group differences.

Sociological surveys of drinking practices and alcohol problems, using methods of those of D. Cahalan (1973) are perhaps the most realistic approach. These combine consumption data with evidence that alcohol is interfering with life functions, according to quantifiable criteria. The Marden (1974) method uses demographic data and established risk factors to estimate "drinkers with problems." Schmidt and deLint (1970) and Lederman (1966) use annual per capita consumption of alcohol. Community surveys, especially longitudinal studies that follow a group over a long period of time, are the most expensive but the best source of data when properly designed and administered. Even here, getting a representative cross section of one's sample and standardizing criteria for comparison with other groups present nearly insurmountable problems, while adequate follow-up may require dogged (and expensive) detective work.

These sociological survey methods tend to yield figures notably higher than Jellinek-like approaches; for example, ten million instead of five million. But the larger figure includes those classed as problem drinkers as well as alcoholics. This seems preferrable and give a truer picture of the real number of early and middle-stage alcoholics, those whose dependence on alcohol is causing life problems, although they may not have yet progressed

to overt physical addiction (Cahalan, 1973).

Keller (1975) using a modified Jellinek formula, estimated 5.5 million true alcoholics in the United States in 1972, but increases since 1945 suggest that the figure can be extrapolated to about 6.8 million for 1982. Even these authors estimate that the total, including problem drinkers, runs between 9 and 10.5 million.

One can estimate as a rule of thumb that alcoholics constitute 4 percent of the general population, or 8.8 million Americans (Keller and Gurioli, 1976). In an adult population where at least three-fourths are drinkers (as in some large companies), about 6 percent of the total group are probably alcoholic. In groups where nearly all are drinkers, as in certain professions or types of work, the alcoholism rate may run about 8 percent or one in twelve.

These percentages vary markedly by locality and ethnic background, so the chances of developing alcoholism if you drink are not always 8 percent or one in twelve. They may be 1 percent for some and 90 percent for others. These are averages, which can be very misleading when applied to individuals, just as the concept of average temperature is meaningless if we talk about a man with his head in the refrigerator and his feet in the stove (Keller and Gurioli, 1976).

The rate of alcoholism seems to be higher in urban than in rural areas, and perhaps highest in wealthy suburban and ghetto areas (deLint and Schmidt, 1978). The opinion that it is equally high among men and women has been stated; an added reason for disagreeing based on the Jellinek formula, which may be a very poor indicator of middle-stage female alcoholism.

Among Americans, Eskimos and then other Native

Americans seem to rank highest, followed by blacks, Irish, Poles, and those of Scandinavian origin (Heath, 1975). But again generalizations are unwarranted, since upper-class blacks may have less per capita alcoholism than whites at the same socio-economic level but worse rates at the lowest poverty level. Catholics and "liberal" Protestants have higher rates of both use and heavy use than do conservative Protestants. Although alcoholism among Jews is much higher than previously thought, they still have the lowest rate of alcoholism in spite of a high rate of use (Heath, 1975).

The military constitutes a distinct subculture, with high rates of alcohol problems among members and dependents. Boredom, loneliness, low prices, and the "machismo" image of the fighting man are all accentuated by pressure to drink in social gatherings of both servicemen and their wives. Starting in 1974 there has been a major change in this situation, with the United States Navy and then other branches making an effort to reverse these attitudes (Long, Hewitt, and Blane, 1977).

Comparisons between countries in per capita incidence of alcoholism problems has never been a simple undertaking. Methods, samples, and survey objectives differ so widely that one despairs of any valid rankings. France tops all lists, followed, usually in varied order, by the United States, Chile, England-Wales, Ireland, some Scandinavian countries, Canada, and Australia. The Irish in America have a higher incidence than the Irish in Ireland. Russia and Poland have very high rates, but it is difficult to get accurate figures from behind the iron curtain. There has been a sharp rise in alcoholism in Japan in the last decade or so. It is a mistake to lump all of Italy together; rates among wine-drinking southern

Italians have traditionally been reported as "low, whereas industrialized northern Italy show high rates now. China has over 1.2 billion people scattered over a vast area; to generalize about the Chinese seems valid, as there must be wide differences in their use and reaction to alcohol." (Negrete, 1973).

If each alcoholic affects the lives of four or five others - spouses, children, employer, employee, innocent victim of accident, or other - then our 8.8 million alcoholics have an impact on 35 to 45 million others for a total of about 50 million citizens.

How are they affected? Alcohol causes more than alcoholism. Numerous reports (for example, Rada, 1975) indicated that "about 67 percent of child beating cases, 40 percent of forcible rape cases, and 51 percent of felonies are alcohol related."

Studies show that "in 69 percent of beatings, 72 percent of stabbings, and in 64 percent of homicides, either the attacker or the victim or both had been drinking. Some 38 percent of suicides are alcohol-related; alcohol accentuates depression and makes one 14.7 times more likely to commit suicide, or 58 times more likely," according to one report (James, 1966, p. 9). As high as 45 percent of our social welfare aid in categories like Aid to Dependent Children and 60 percent of "mental cruelty" divorce cases have been estimated as associated with excessive drinking, which is the primary complaint in one-third of all broken marriages (Orford, 1975, p. 27).

According to Haberman and Baden (1978, p. 43), "Automobile accidents in the United States kill more people each year than the total of 46,483 American soldiers killed in the entire dozen years of the Vietnam

War. Including the drinking pedestrian, alcohol is involved in about 52 percent of these fatalities." Alcohol-related traffic deaths peaked at about 28,000 Americans per year. Short of death, the cost from traffic accidents in broken homes, permanent disabilities, hospital bills, and auto repairs is staggering and hard to estimate, but in the billions of dollars. Not all of these drinking drivers are alcoholics; some of them were not even drunk.

Money may not be the most important value, but it is useful to help grasp the size of alcohol problems. We complain about the high cost of life's necessities, yet we Americans spent $43.8 billion in 1979, or $120 million a day, on taxable alcoholic beverages, plus an untold amount on bootleg liquor (about 24 million gallons in 1978) and home brew. In 1977, the National Institute on Alcohol Abuse and Alcoholism (NIAAA, 1977) estimated that we spend another $42.75 billion to pick up the pieces: $12.7 billion in health care, $5.15 billion in motor vehicle accident losses, $43 billion in fire losses, $2.86 billion in losses caused by violent crimes, about $2 billion in social programs responding to the problems created by alcoholism, and $19.64 billion in loss to business and industry.

About 29.2 percent of our liquor bill goes to federal and state taxes, over ten billion dollars a year. Obviously, this is not enough to pay for the loss, even if all alcohol tax went into programs instead of only one-twentieth or less, as now happens. Yet treatment and rehabilitation could turn a large number of alcoholics from tax liabilities into tax payers; one Seattle treatment center claims that the recovered alcoholics it returned to society as wage earners paid over $100,000 in

taxes in one year. (A cost/benefit study by NIAAA in 1976 shows that for one dollar spent in treatment there would be three dollars in benefits returned to the nation.) In some states a public welfare recipient gets more from the state if he continues drinking than is paid to a rehabilitation center if he tries to stop. Families seem to get less help than the alcoholics (NIAAA, 1977).

We cannot measure in dollars the value of lost human lives, wrecked families, deteriorated personalities, and human misery. We cannot even know the impact of all this deep inside a spouse or child. Statistics ignore individuals: Even one alcoholic in your family is one too many. We talk of "victimless crimes" but here we are all victims, and especially the alcoholic.

This also answers the question, "Is it any of your business if I drink?" If you pay taxes and insurance premiums, it is indeed your business. As the number-one health problem, alcohol misuse adds enormously to the cost of living for all of us. In addition, the life of everyone who gets into a car is threatened by drinking drivers. Alcohol impinges on almost every aspect of our lives, almost everyday.

## EFFECTS ON THE DRINKER

There is hardly a tissue in the body or a function of the body that is immune to the damaging effects of ethanol. Ethanol has been called an ambivalent molecule since it can be both a source of calories and also serve as a poison. As Lundquist (1975) puts it, "Alcohol is both a rapidly metabolized nutrient and a dangerous drug, depending on the amount consumed and the duration of the exposure to the substance."

It is necessary to be somewhat technical in order to explain what is known of the way alcohol effects the brain and the body, because alcohol abuse affects virtually all the tissues of the body disrupts their normal regulatory mechanisms, and produces disease in nearly every organ. (As more and more has been learned in recent years about the widespread depredations of alcohol abuse, we are realizing that alcoholism is rapidly becoming the number one disease in our culture and already is the number two killer) (Schmidt and Popham, 1975).

The mechanisms of alcohol poisoning are both direct and indirect, either damaging cells and tissues of the body or distorting their function in some way so that control of secretions, the behavior of the circulation, and the absorption of nutrients or other aspects of the bodily economy are disrupted. Individual susceptibility to alcohol's effects appear to vary with genetic inheritance, with nutritional state, and in other lesser understood circumstances (Noble, 1978).

The small ethol alcohol molecule is rapidly absorbed from the upper gastrointestinal tract into the blood where it diffuses across capillary membranes into the tissue of the body, including the brain and placenta. Its direct metabolic effects are manifest chiefly in the liver (and, to some extent, in the intestinal mucosa and elsewhere) where alcohol dehydrogenase, an enzyme, catalyzes the conversion of alcohol to acetaldehyde, which circulates throughout the body and is further degraded by the action of other enzymes to carbon dioxide and water (Wolf, Felver, Altschule, Werthessen and Gerner, 1983). This process requires the removal of large numbers of hydrogen atoms, thereby preempting regular cellular energy normally

engaged in metabolizing fat and glucose as fuels for the body. There are many chemical chain reactions and cycles of energy expenditure and regeneration of energy that regulate the enormously complex body economy of a healthy person, and the need to dispose of ingested ethanol disrupts most of them - the more ethanol, the more disruption. While waiting to be metabolized, ethanol itself, like its relatives ether and chloroform, can directly disturb the normal traffic of chemical substances among the cells and hence disrupt secretory and absorptive materials that are required for nutrition or other tasks in the dynamic processes of the body (Altschule, 1983).

## NUTRITION AND DIGESTIVE DISTURBANCES

Many of the tissue disturbances caused by alcohol are accentuated by malnutrition, a frequent accompaniment of alcoholism. Indeed, in several alcoholics the nutritional deficits may be responsible for the worst of the symptoms and disabilities. Ethanol can impair the intestinal absorption of vitamins B1, B2, and folic acid (Tomasulo, Kater, and Iber, 1968). Other nutritional disturbances associated with alcoholism include magnesium, zinc, and copper deficiency, the consequences of which are poorly understood.

The liver, essential to life, is the body's busiest and most versatile chemical factory, converting a vast array of nutrients into materials to build, maintain and repair (Schmidt, 1977). Like the kidney, it is also a major excretory organ and removes substances from the blood that are not readily soluble in water, especially the residue of old and damaged red blood cells.

Because it causes impairment to the ability to

metabolize fats, fatty liver is an almost universal consequence of ethanol ingestion. The other liver disorders, hepatitis, and cirrhosis appear to occur in suitably susceptible people and are positively correlated with the duration and amount of ethanol consumption (Pequinot, 1978).

The transition from alcoholic hepatitis to cirrhosis appears to be determined by an immunological mechanism that interferes with the normal maintenance and replacement of the cells of the liver (Leevy, Chen and Zetterman, 1975).

Cirrhosis and other alcohol related liver diseases account for a level of lost productivity, illness, medical costs, and death comparable to the combined impact of gastrointestinal cancers. Carefully gathered epidemiological data from Canada show that in deaths due to liver disease, 80 percent are alcohol related; it is rising more rapidly in that nation than any other cause of death (Senior, 1983).

Pancreatic secretion is initially stimulated by ethanol, its access to the intestinal tract may be obstructed because of associated smooth muscle constriction at or near the spinchter of Oddi, its point of entrance (Menguy, Hallenback, Bollman and Grindley, 1978). Alcohol may also be responsible for an inflammatory condition in the pancreas in which ducts are obstructed due to the formation of protein plugs in the pancreatic juice itself. These plugs may later calcify and produce chronic pancreatitis, causing scarring, destruction of pancreatic function, and further impairment of intestinal absorption with severe diarrhea and fatty stools; diabetes may also be a consequence (DiMagno and Go, 1975; and Sachel and Sarles, 1978).

## ENDOCRINE ALTERATIONS

Among endocrine effects other than diabetes are hypogonadism and feminization in the male, which are related to the suppression of male hormones and an excess of female hormones consequent upon impaired liver function (Cummings, 1978). The usually associated testicular atrophy may occur in the absence of liver disease; indeed, the testis, a tissue with a high glucose requirement, can be directly affected by alcohol. Other hormone disturbances include suppression of the secretion of growth hormones even by moderate alcohol ingestion. Growth hormone is normally secreted during a phase of sleep in which slow waves are recorded on the electroencephalogram. Despite the fact that alcohol increases the periods of slow-wave sleep, growth hormone is nevertheless, suppressed.

## HEART AND SKELETAL MUSCLES

Alcohol abuse has serious deleterious effects on both heart and skeletal muscles that appear to be due to the impairment of energy metabolism (Eckhardt, 1981). Alcohol damage to muscles is manifested by weakness and, ultimately, by the destruction of muscle fibers. Skeletal muscle damage is reflected in the blood by an elevated concentration of creatine kinase, a muscle enzyme. In severe cases, myoglobin, a muscle protein, may appear in the urine. In the heart, alcohol affects the mechanisms that regulate the heart beat, producing a variety of rhythm disturbances that may result in sudden death (Gunnar, 1975).

Until recently, heart disease associated with alcoholism was thought to be another manifestation of vitamin B1 (thiamine) deficiency (Tomasulo, P., Kater, R. and Iber, F., 1968). It is well known now that even in well nourished alcoholics, the consequences of alcohol metabolism in the heart leads to destruction of heart muscle fibers and the deposition of fats and scar tissue that ultimately lead to congestive failure (Lange and Sobel, 1983). Cardiac output is reduced in cardiomyopathy in contrast to the high output type of heart failure characteristic of nutritional cardiomyopathy (beri-beri heart disease) (Talbot, 1975). Of course, the effects of the two may be combined and even supplemented by poisoning from chemical contamination of alcoholic beverages, as for example, from cobalt sulfate that at one time was used in the manufacture of beer (Eckhardt, 1981).

BLOOD AND BONE MARROW

Extensive disturbances in the blood formation system are attributable to the metabolic disruptions, as well as to the direct effects of excessive alcohol ingestion (McColl, 1981). Apart from reducing absorption of vitamin B12 and folate, indispensable for red blood cell production, alcohol directly impairs red cell maturation through effects on pyriodoxine, folic acid, and iron metabolism (Hines, 1975). Through its effects on the red blood cell membrane, it shortens red cell life span. An anemia similar to pernicious anemia may develop independently of folate deficiency because of direct effects of alcohol on the developing young red blood cells. Either too much or too little blood clotting that produces bleeding or thrombus formation may result from

alcohol's effects on the development of megakaryocytes, the producers of blood platelets. Inhibitory effects on the production of other types of blood cells, marciphages, lymphocytes, and leucocytes may also occur, impairing resistance of alcoholic patients to infections (Herbert and Tisman, 1975).

## RESISTANCE TO INFECTION

The lowering of resistance to infection by alcohol was discovered over a hundred years ago by Roger Koch in experiments with guinea pigs exposed to cholera vibrio (Williams, 1975). Since then it has been shown that even modest amounts of ethanol may impair the mobilization of polymorphonuclear leucocytes that engulf bacteria and decrease the bactericidal activity of blood serum. Larger amounts interfere with glottis closure that shuts off the windpipe during swallowing and ciliary activity that clears debris in the bronchial passages. Both of these effects are accentuated in the presence of hepatitis and cirrhosis (Johnson, 1975).

## CANCER SUSCEPTIBILITY

Alcohol abuse has been implicated in promoting the development of some forms of cancer, especially of the mouth, pharynx, larynx, esophagus, and liver and possibly pancreatic, colonic, and prostatic cancer as well. These neoplastic effects appear to be enhanced by heavy smoking (Eckhardt, 1981).

## SKIN MANIFESTATIONS

Alcohol abuse manifests itself in changes in the

skin. Through what appears to be capillary effects, the eyes and the face, especially the nose, become red, the conjunctiva suffused, and the skin of the eyelids edematous. Other skin manifestations, including red palms and porphyria cutanes tarda, are secondary to hepatic cirrhosis (Schmidt, 1977). Spider nevi, small red blemishes often accompanied by breast development in males are attributable to the hypogonadism and feminization. Often, the failure of severe alcoholics to eat properly may lead to the skin lesions of multiple vitamin deficiencies (Woeber, 1975).

## SURGICAL PROBLEMS

There is an impressive list of surgical consequences of alcoholism such as the cancers referred to earlier and esophageal varices secondary to hepatic cirrhosis. Surgical emergencies include sudden rupture of the esophagus of the junction between esophagus and stomach that results from the trauma of violent vomiting. In addition, there are traumatic injuries of all sorts from fights and traffic and other accidents (Orloff, 1975).

## EFFECTS ON THE BRAIN

Of greatest concern are the changes in the brain attributable to overindulgence in alcoholic beverages (Ron, Acker, Shaw and Lishman, 1982). As alcohol diffuses freely across intracranial capillaries, the cells of the brain must accommodate the membrane effects and other actions of alcohol and its breakdown products. One of the most vivid and often frightening mental consequences of heavy drinking, delerium tremens, is due not the alcohol,

but to sudden alcohol withdrawal that requires the brain cells to accommodate rapidly to a new chemical environment. The alarming manifestations of delerium tremens can be quickly halted by reestablishing the proper equilibrium among brain structures with another drink, (the hair of the dog).

As a consequence of drinking, a seemingly fully alert person may display severe impairment of judgment without evident memory loss at the time, but perhaps with no recollection of the event the following day. More long-lasting effects on the person, including persistent impairment of judgment due to actual brain damage, are always a possibility (Ashby, 1982).

Alcohol induced delay in reaction time, weakening of social restraints, and impairment of judgment are reflected in an immensely high association of accidents and injuries with drinking. Assaultive and criminal behavior are also highly correlated with excessive alcohol consumption.

Several devasting neural consequences of alcohol abuse, including degenerative changes in the brain and optic nerves, are basically nutritional and due either to inadequate diet or to the effects of alcohol intestinal absorption or intermediary metabolic processes, or to a combination of all these facts. Alcohol inhibits the gluconeogenesis, the synthesis of sugar required when liver glycogen is depleted, and seizures or even death from severe hypoglycemia may be precipitated by drinking following a prolonged fast (Field, Williams, and Mortimore, 1973).

There are other degenerative disturbances in the brain that are not so clearly attributable to nutritional deficiency but, if related to 2,3 butanediol (Rutstein,

1983), may nevertheless reflect neuronal damage from blocked glucose metabolism or, on the other hand, may represent the more directly toxic effects of alcohol. Most often encountered are cortical atrophy in the cerebellum manifested by loss of muscle coordination and in the frontal lobe by the gradual loss of intellectual assets-especially judgment, capacity for abstraction, visual motor and visual spatial functions, visual memory, and social restraint (Draper, Feldman, and Haughton, 1978). Radiological evidence of corticalatrophy associated with high consumption of alcohol, appears after a shorter time in older than in younger drinkers (Bahnsen, 1981). They also observed in ventricular dilation and in frontal sulcal widening after prolonged abstinence from alcohol. Whether or not there is associated recovery of intellectual functions accompanied by neuronal regeneration has not been developed (DeLuca, 1981).

## DEPRESSION

Among psychiatric syndromes associated with alcoholism, perhaps the most common is depression (Grant, 1975). The etiological relationship, if any, between depression and alcoholism is not clear, although a sizable cohort of depressed patients have a history of alcoholism among relatives. By the same token, many alcoholics gave a history of depressive episodes prior to the onset of alcohol addiction (Winokur, 1976). Nevertheless, some studies have failed to correlate depression, especially bipolar manic-depressive depression with subsequent manifestations of alcoholism. Therefore, while the association of depression with alcohol is frequent, it is not clear that the depression comes first. Suicide is

also frequent among alcoholics and alcohol is said to be implicated in about 30 percent of all suicides (Eckhardt, 1981).

Abnormal Diols, a dihydric alcohol, such as glycal, associated with depression - In a study of over a hundred patients admitted to an alcohol detoxification center, a diagnosis of depression was associated with the presence of abnormally high alcohol in the blood serum following ethanol ingestion (Felver, M., Stewart, W., and Veech, R., p. 1980). Together with butanediol 2,3 propanediol appeared in the blood approximately 85 percent of the patients in the detoxification center whose blood also contained ethanol. The other 15 percent whose blood did not contain the diols had, nevertheless, consumed the same type of alcoholic beverages in similar quantity and for similar periods of time. The blood of control subjects did not contain the diols, even after ingestion of large amounts of ethanol (Wolf, S., Felver, M., Altschule, M., Werthessen, N., and Gerner, B., 1983).

The complications of alcoholism - hepatic disorders, pancreatitis, cardiomyopathy, and a variety of degenerative conditions - are just as prevalent among these patients whose blood was free of diols as among those containing high concentrations. Only one of the independently diagnosed conditions, manic-depressive depression, set the two groups of patients apart. Depression had been entered on the charts of only those patients whose blood was subsequently found to contain 2,3 butanediol associated with the presence of alcohol (Felver, et al., 1980 and Wolf, et al., 1983).

## THE SPOUSE AND FAMILY OF THE ALCOHOLIC

During the past few centuries, the alcoholic has been the focus of a great deal of attention while the spouse was almost totally neglected or merely pitied. The spouse was always presumed to be the wife; the husband of the alcoholic woman was ignored completely (Gomberg, 1977). When studies began to be published, they assumed that the wife was a neurotic person who married an alcoholic husband to satsify some unconscious need to be needed, a mothering or protective impulse which could be gratified by taking care of a suffering alcoholic (Price, 1945; Whalen, 1953). Personal maladjustment was seen as the cause of being married to an alcoholic, not the result.

Dr. Joan Jackson challenged this concept in her now classic paper, "The Adjustment of the Family to the Crisis of Alcoholism" (1954), which has been confirmed by the research of others on this point, although they may disagree about her theory of adjustment stages (for example, Lemert, 1960). The principal thrust of her research was to show that although a minority of the wives of alcoholics may indeed marry because of unconscious needs, the majority were normal personalities at marriage and the neurotic behavior that they exhibit is a reaction to living with alcoholism rather than cause. This parallels a similar shift in alcoholism theory away from psychopathology as the cause of alcoholism and toward a recognition that psychopathology results from alcoholism.

Edwards, Harvey and Whitehead (1973), Orford, (1977), and Paolino and McGrady, (1977) have systematically reviewed the controversies in the research on wives of alcoholics and have insisted that the matter needs to be put in the broader perspective of psychosocial research,

which includes other types of marital problems as well as alcoholism. Paolino and McGrady analyzed the research from the point of view of methodology, sampling, and theoretical context and have concluded that there is little support for the theory that wives of alcoholics need an alcoholic in order to remain psychologically stable. However, it is not necessary to make a dichotomous choice between the old predisposing personality theory and Jackson's reaction to stress theory. The wife of an alcoholic is an individual, and we must avoid sterotypes.

The theory of a predisposing personality has largely given way to another view, one that recognized that living with an alcoholic generates instability, indecisiveness, guilt feelings hopelessness, and a host of other reactions in an otherwise normal personality (Reddy, 1978). Certainly these qualities in a spouse should not be presumed at the outset to be the cause of the drinking problems, and an accurate diagnosis can only be made much later in treatment. The research of Jackson and others shows that it is more useful to conceptualize the behavior of the spouse as the reaction to a cumulative crisis in which the spouse experiences progressively more stress.

Because spouses come to the initial interview usually feeling that the alcoholic drinking is his/her fault, it is best not to start with a history that is only depressing and would reinforce these guilt feelings. Even when the wife's behavior is inappropriate and bizarre, we cannot assume that she is driven to act in this manner by an unconscious need to have her husband drink. There is no evidence that the husband drank because of this behavior, nor that if the wife had so behaved he would not have resumed his drinking. It cannot be demonstrated that

if she were given information on how to terminate the drinking, she would not or could not make use of this information. It may be that the wife's behavior is motivated by some immediate concerns; to release situationally induced tension and to stabilize the family. If it precipitates further drinking by the husband, this is not necessarily the conscious intent of the spouse (Edward, P., Harvey, C., and Whitehead, P., 1973).

One of the most straightforward ways of viewing alcoholism and the family is to view alcoholism as a condition that arises in one member of the family and creates stress and tension for other family members, especially for the drinker's spouse (Al-Anon, 1979). According to this view the problem is located firmly in the condition suffered by one member of the family. Like the disease concept of alcoholism, with which this view fits most appropriately, it probably represents a gross oversimplification, although there may be much merit in it.

A major complaint of those who live with people with serious drinking problems is that the latter is not around enough to carry their share of the responsibility for providing for the welfare of the family. A study by Orford (1976) of wives married to problem drinking husbands concluded that husbands that abuse alcohol tend to assume a secondary role in the management of the affairs of the family. Complaints were made over things large and small. Many husbands were less involved in housework, or in doing repairs around the house that either they or their wives considered ideal. Many were accused of not being around when needed by the family. Interestingly, although there was a general under-involvement in family tasks, there was no such

under-involvement, indeed, in some cases a suggestion of over-influence in family decisions about social and recreational life and about marital sexual behavior.

According to Scott (1970), "Two points can be made about such studies, and both of them serve to put the study of alcohol and the family in a wider context or to help guard against over-simplification. The first concerns the great variation which is to be found between families that contain an alcoholic problem. Although the general trend may for the wives to complain about their drinking husbands doing too little, there are many cases where this factor is less important, and instances come to mind of husbands with drinking problems who were more than usually involved in the day-to-day running of their homes. Alcohol is far from being a fixed entity which lacks invariant forms, and it is not surprising to find that family patterns associated with it are highly varied. There may be general trends, but there are no simple generalizations."

"Secondly, there is no reason to suppose that the findings on marriage roles are peculiar to alcohol problems. Studies of families in which husbands have other forms of psychological distress have produced similar results." (p. 27).

There can be no doubt that women married to men with serious drinking problems do experience hardship of lesser or greater degree. The following are the number of wives, out of the one hundred involved in the Orford study (1976) who made each of ten complaints about their husbands behavior when they were drinking:

| | |
|---|---|
| Restlessness or wakefulness at night | 49 |
| Allowing himself to get dirty, unkempt or smelly | 61 |

| | |
|---|---|
| Failing to join in family activities | 65 |
| Picking quarrels or starting fights | 76 |
| Making threats of physical violence | 72 |
| Administering beatings | 45 |
| Attempted to injure spouse seriously | 27 |
| Responsible for continuing a row for hours | 57 |
| Breaking furniture, windows, ornaments, etc. | 49 |
| Expressing extreme jealousy or possessiveness | 49 |

(pp. 31 - 32).

Initially the hardship takes its toll in terms of the spouse's disturbances. Many wives report being drawn into a nightmarish spiral of tension, deceit, guilt, and uncertainty about their own part in causing the problems and responding to them (Scott, 1970). When groups of wives of problem drinkers have been given objective tests of personality disturbance, the usual finding is that they show a generally raised level of distress. Groups of wives were asked about problem drinkers in a series of questions about psychosomatic systems which had previously been used in one of the largest ever community surveys of mental health - The Midtown Manhattan Survey in New York (Bailey, 1974). Of all married women in the Midtown Survey, 35 percent had appeared to be at least moderately distressed. In comparison, 65 percent of wives in this study who were at the time living with a husband who was

drinking excessively were at least moderately disturbed, and 43 percent of wives living with a husband whose drinking had previously been excessive but which was no longer so, were at least moderately disturbed. Wives who had previously lived with excessively drinking husbands, but who were no longer doing so either because their husbands had stopped drinking or because they had separated, reported less disturbance, the longer the time had elapsed.

Not surprisingly, the role of marital breakdown is high when a serious drinking problem exists for one partner or the other. Unrelieved stress, particularly compounded with helplessness arising out of expectations for change being repeatedly dashed, is bounded to lead to thoughts of terminating the marriage as a solution (Cork, 1971). Indeed, many observers of alcoholism complicated marriages have expressed surprise that so many of such marriages survive at all (Cotton, 1979). Survival of marriage is not so surprising, however, if one considers the many commonsense barriers against the breakdown of marriage. Feelings of obligations to children, moral restraints, external pressure from relatives or from the local community, legal difficulties, a wife's lack of an independent source of income, an absence of anyone to take the partner's place - these among the many factors that clearly bear upon the decision to endure hardship or to escape from it (Grant and Gwinner, 1979).

The early focus of research studies on spouses of alcoholics was on understanding and describing the spouse's personality and motivation for beginning or continuing marriage with an alcoholic partner (Edwards, et. al, 1973). Once such early hypothesis depicted the female spouse of the male alcoholic as having significant

psychopathology and sometimes even being responsible for her husband's drinking (Carroll and McKendrick, 1977). Later studies have refuted these notions. As it is presently known, there is no typical "alcoholic personality pattern" nor greater incidence of psychopathology in the spouses of alcoholics (Paoline and McGrady, 1977). Another hypothesis suggests that husbands of alcoholic women initiate divorce proceedings more readily than do wives of alcoholic men (Lindbeck, 1978). Recent research has tended to focus on the role of the spouse in coping with alcoholism in the family an in facilitating the recovery of the alcoholic partner.

Controlled prospective studies of a variety of hypothesis and treatment strategies are clearly necessary. In addition, studies are needed to define precisely the prevalence and nature of problems experienced by spouses of problem drinkers, including those of alcoholics (Coudert, 1972). A hypothesis that warrants further study suggests that there may be health benefits experienced by families who successfully deal with intrafamily alcoholism and participate in long term aftercare programs such as Al-Anon. Recent evidence has demonstrated that use of health care services by families of alcoholics declines following successful treatment of the alcoholic patient (Cohen and Krause, 1971). This is an important finding that needs further verification and elaboration.

It is now fairly well established that one group of people with a high risk of having serious drinking problems, are people who themselves had a problem drinking parent (Schuckit, 1976). Great efforts have been made in recent years to involve husbands or wives of people with drinking problems in treatment and counseling programs and in research, but the same efforts have not been made with

regard to children (Finn, 1975). Presumably this is because all of us, the problem drinker, the spouse, the counselor, and the researcher are anxious to protect the innocence of children who we feel may not have full knowledge of the problem or cannot understand it or could have but little influence on it (Orford, 1978). When effort is made to overcome the inevitable barriers that exist when talking to children who are living with a problem drinking parent, they are frequently found not only to share many of the same problems with which we are more familiar in spouses of alcoholics, but also to be highly perceptive to comments about the family and its problems and about their own reactions to it (Ackerman, 1979).

First, most of the children interviewed in the Wilson study (1978) shared the non-drinking parents uncertainty about what to make of the problem and how best to react to it. In fact, it often seemed that the long drawn out process of realizing that a problem existed, deciding what it is that is wrong, and putting a name to it, was something made even more torturous for a child on account of the conspiracy of silence which surrounded the problem. It is obviously no simple matter for parents to decide whether children should be put fully in the picture concerning the problem, but is is very easy for parents to underestimate the knowledge and understanding that their children may already possess.

When children are well informed about what is going on in their families, they may have a quite complex view of the matter, and, as has been discovered, may put as much blame on matters other than the drinking, including the behavior of the non-drinking parent. The latter may be blamed for provoking some of the problems, for keeping

arguments going when they arise, or for not reacting firmly or consistently enough.

One aspect which is worrying, because it forms such a crucial component of child and adolescent development, concerns friendship formation. Sometimes it was simply a matter of the parent with a drinking problem having a low tolerance for having other children in his/her presence (Black, 1981), but usually it was a more subtle matter that had to do with the child's unwillingness to enter into a close friendship in which he or she would sooner or later want to invite a friend home. They often felt very keenly that there was something abnormal about their own family and they had to know or trust a friend very well before risking exposure.

Are children adversely affected by these experiences? From the rather large amount of research that has been done on it (for example, Ackerman, 1979 and Cork, 1971), it looks as if children in this position are somewhat more likely to be of the conduct or anti-social behavior type than of the neurotic-anxious-type; 'aggressive' problems rather than 'quiet' problems as one researcher has put it. Truancy, temper tantrums, destructive behavior, hyperactivity, aggressive behavior, and a bad reputation with their teachers are among the problems which have been shown to be more frequent among children of problem drinking parents (Seixas, 1979). Taking quite a different angle, one Scandinavian study (Bruhn and Wolf, 1975) found that children with problem drinking parents were more likely than other children to be referred for specialist examination of physical complaints without any organic cause being discovered.

Although there is little known of the long term effects, it can be stated with some confidence that a

young man whose father has or had a drinking problem should be considered at high risk of developing a problem himself (Schuckit, 1976), particularly if he has shown any signs of deviant anti-social behavior and is himself already a heavy drinker. Clearly we are talking here of only a proportion of young people, even among those with problem drinking parents. Not much is known of other long term solutions of forms of personality development which are influenced by having such a problem in the home as a child. Here again, as when discussing all aspects of this field, it is important not to generalize from a minority of cases. It is important to bear in mind that there are endless variations of parental drinking problems, so that the nature of the stress is different from child to child (Orford, 1978).

What are the effects of drinking problems of differing types, levels of severity and duration? One factor which it seems may be an important indicator of the degree of severity of the parental problem, and possibly of its impact, is that of violence in the family (Orford, 1976). In Orford's study (1976) of children's problems, families were divided into those in which there had been violence, and those into which there had not, and the rates of childhood problems were compared to control families without any parental drinking problems. Only in the first group, with a parental drinking problem coupled with violence, was there a significantly higher frequency of childhood problems. Other research shows that wives use more coping strategies of all sorts when they experience violence from their husbands' problems and are more likely to continue until they become chronic. Hence the violence may also be associated with worsening of the problems and the stress of family breakdown.

Because the concepts of 'alcoholism' and 'problem drinking' are so imprecise and cover such a variety of patterns and problems, and because children have a wide variety of personality patterns it is important that we try to be as objective as possible in this potentially very emotional area. Children vary in the age at which they are exposed to the stress of parental drinking, and in temperament (Hindman, 1977). It is reasonable to expect quite different effects on children, and even to find opposite effects in some cases. It is perhaps naive to suppose that all the long term effects need to be negative. Parental drinking habits which create some problems, even serious ones, may possibly combine with other circumstances to strengthen the ego in certain ways.

Sex is a variable which is of obvious relevance. The speculation made earlier of the role of anti-social behavior in intergenerational transmission of drinking problems applies principally to men. With the recent increase in recognition of drinking problems among women (Sandmaier, 1979), it becomes increasingly important to know whether similar or different mechanics are at work. Part of the folklore on the subject is that daughters of alcoholics are very likely to marry men with drinking problems. No doubt this does occur, but most of the evidence is anecdotal and there is little research that indicates its frequency of indeed, whether it occurs more frequently than would be expected by chance (Grant and Gwinner, 1979).

It is estimated that in the United States today there are seven million children under the age of twenty, and millions more adults with an alcoholic parent or parents (NIAAA, 1981). Studies to date on this population have focused predominantly on descriptions of the various

psychological impairments or an assessment of the risk of alcoholism experienced by such children. Psychological problems attributed to them have been numerous and varied and include the presence of both major and minor types of psychopathology; impaired self-esteem and reality testing (Hughes, 1977); impaired academic/vocational performance (Hindman, 1977); a variety of psychosomatic complaints (Biek, 1981); higher incidence of depression (Cotton, 1979); serious confusion (Wilson, 1978); emotional and behavioral disorders (Chafetz, Blanc, and Hill, 1971); and susceptibility to a large number of acting out behaviors such as delinquence, running away from home, and alcohol and other drug abuse (Coakley and Johnson, 1978). Further, a variety of the mechanisms to cope with life that are seen in children of alcoholics have been identified; these include mechanisms that suggest that some of these children may become responsible adults, relatively free of long-term psychopathology (Bowan, 1974).

Although currently there is intense interest in the development of large-scale intervention and treatment programs for the children of alcoholics, there is clearly a great need for studies to document the prevalence and nature of the psychological impact of parental alcohol abuse on children (Blum and Blum, 1974). This is of critical importance if cost-effective, successful, and large-scale intervention and treatment programs are to be implemented. In order to design, implement, and evaluate prevention programs, there is also a great need to identify children who may be prone to suffer serious pathological consequences of parental alcohol abuse and alcoholism. (Finn, 1975). Another priority for research is better identification and understanding of those

variables that influence both positive and negative outcomes in children. This type of research may be enhanced by involvement of social scientists who conduct research on victims of other problems, behaviors or diseases. Such theoretical and practical research from various disciplines would greatly strengthen the ability to identify and treat families who may be at risk (Booz-Allen and Hamilton, 1974).

## METHOD

The purpose of the present study is to determine the prevalence of alcohol abuse in a small geographic area in Eastern Kentucky. This study involved one hundred and fourteen seventh and eighth grade students from a single elementary school in the Floyd County, Kentucky School System. The survey instrument chosen to use in the present survey was developed by Pilat and Jones (1984 - 85). The instrument consists of thirty yes-no questions concerning the children's perception of the drinking habits of their parents. The survey is anonymous. The only information asked for is the age and sex of the respondent.

The survey was conducted by the homeroom teacher of the students. It was determined that they might be more responsive and cooperative for someone they were more familiar with. The administrators of the survey were instructed to read each separate item to the students. This was done because it was determined that some members of the group would have trouble reading some of the items. In this way, random answering would be eliminated.

## RESULTS

Table 1 shows the results of the present survey. It lists the percentage of seventh and eighth graders responding yes to the survey questions. The seventh and eighth graders' yes responses were then averaged to get a total score for each survey item. The percentages enumerated on Table 1 might seem somewhat inflated to a casual observer, but not so to any observer with the drinking habits of the population of this region of Kentucky.

## DISCUSSION

A clearer picture of the area's characteristics may be seen by comparing Floyd County to another area of Kentucky, Fayette County. A total of 52 percent of the seventh graders that were surveyed receive free or reduced meals each day, and 62 percent of the eighth graders receive free or reduced meals. In order for children to receive a free or reduced meals, their family must be at or below the poverty level. In comparison, the principal of a junior high school in Fayette County, Kentucky reported that less than one-third of his students received free or reduced lunches. According to the Department of Employment Services (DES), the unemployment rate in Floyd County is approximately 15 percent. According to the DES in Lexington, the current state unemployment is around 5 percent, one-third that of Floyd County. The Average Daily Attendance (ADA) at the school where the present surevey was taken is 89.5 percent. In Fayette County, the ADA is around 96 percent. Twenty-six percent of the seventh graders and 29 percent of the eighth graders at

the school where the survey was conducted come from single parent homes or live with family members other than either parent. Kentucky leads the country in its school drop-out rate and in adult illiteracy. Since Floyd County has one of the highest drop-out and illiteracy rates in the state, Floyd County is, in a sense, the worst of the worst. All these factors taken together may have influenced the high percentages reported on the survey.

Keller and Gurioli (1976) estimate that "as a rule of thumb, 4 percent of the general population or 8.8 million Americans are alcoholics." (P. 43). In 1985, the combined number of alcoholics and those suffering from other negative effects of alcohol use, aged 18 years and older, was 17.7 million Americans. The number of alcoholics alone was 10.5 million (Alcohol Health and Research World, 1987). In the present survey, 30.5 percent of the seventh graders and 40.0 percent of the eighth graders say that one or the other of their parents have a drinking problem. These figures are quite a bit higher than the national averages which are between 10 and 12 percent.

Sandmaier (1979) in the Invisible Alcoholics estimate that "as many as 50 or 60 percent of adult women drink excessively (more that 60 drinks per month) while 40 percent are abstainers. Fifty-five percent of women who drink do so moderately (defined as less than 60 drinks per month) while 5 percent are heavy drinkers (defined as more than 60 drinks per month). According to A.A., 30 percent of their members are women (General Services Branch, A.A., 1983). In the present survey, 10.2 percent of the seventh graders and 10.9 percent of the eighth graders believed that their moms were alcoholic, which is about double the national average.

According to a Gallup Poll (1987) about one-fourth of

American homes have been afflicted by an alcohol-related problem. In the present survey, 30.5 percent of the seventh graders and 40.0 percent of the eighth graders said that they believed that one of their parents have a drinking problem, which again is quite a bit higher than the Gallup Poll survey.

Sixty-three percent of women in one study on family violence (NIAAA, Sixth Special Report) reported that their husbands were drinking when they were violent. According to the present survey, 35.6 percent of the seventh and 34.5 percent of the eighth graders said that they had heard their parents fight when one of both of them were drinking. Fifteen percent of the seventh graders and 9.1 percent of the eighth graders said that they had protected a family member from a parent who was drunk. Twenty-seven point one percent of the seventh graders and 23.6 percent of the eighth graders said that one of their parents had yelled at them or hit them while drinking.

Alcohol accounts for approximately 97,500 deaths annually. This includes cirrhosis of the liver and other medical consequences, alcohol-related motor vehicle accident and alcohol-related homicides, suicides, and non-motor vehicle accidents (NIAAA, 1987). In the present survey, 44.1 percent of the seventh graders and 34.5 percent of the eighth graders reported that they have worried about a drinking parent's health.

Alcohol remains the most used and abused drug among Americans. In 1986, there was an estimated 28.6 million children of alcoholics in the United States, with an estimated 6.6 million of these under of the age of 18. In the present survey, 23.7 percent of the seventh graders and 16.4 percent of the eighth graders said that they have felt alone, scared, nervous or angry because a parent

would not stop drinking.

Alcohol is the most widely used and destructive drug in the United States. In 1984 the equivalent of 2.65 gallons of absolute alcohol was consumed per person over the age of 14, down from 2.77 gallon in 1981. This is about 50 gallons of beer, or 20 gallons of table wine, or more than 4 gallons of whiskey, gin or vodka per person! Heavier drinkers (those consuming more than 14 drinks per week) who constitute 10 percent of the drinking population, account for half of the alcohol consumed (NIAAA, 1985). The present survey indicates that 39.0 percent of the seventh graders and 29.0 percent of the eighth graders at one time have felt like hiding or emptying a parent's bottle of liquor to prevent them from drinking. The survey also indicates that 22.0 percent of the seventh graders and 21.8 percent of the eighth graders have felt sick or have cried from worrying about a parent's drinking.

A study by Orford (1976) of wives married to problem drinking husbands concluded that husbands that abuse alcohol tend to assume a secondary role in the management of the affairs of the family. Complaints were made over things large and small. Many husbands were less involved in housework, or in doing repairs around the house that either they or their wives considered to be ideal. Many were accused of never being around when they were needed by their families. According to the present survey, 13.6 percent of the seventh graders and 10.9 percent of the eighth graders reported that they had taken over chores or duties at home that were usually done by a drinking parent.

Not surprisingly, the incidence of marital breakdown is high when a serious drinking problem exists for one

partner or the other. Unrelieved stress, particularly compounded with helplessness arising out of expectations for change not being fulfilled, has to lead to thoughts of ending a marriage (Cork, 1971). According to Bailey (1974) in the Midtown Manhattan Survey, "65 percent of the wives who were currently living with a problem drinker were at least moderately disturbed." (p. 26). In this study, 28.8 percent of the seventh graders and 23.6 percent of the eighth graders said that they were afraid that their parents may divorce because of alcohol abuse by one of their parents.

Are children adversely affected by the abuse of alcohol in the home? Hamilton (1974) says that "It looks as if children in this situation (alcohol abuse in the family) are somewhat more likely to demonstrate anti-social behavior." The present survey indicates that 28.8 percent of the seventh graders and 23.6 percent of the eighth graders said that they have withdrawn from and avoided outside activities and friends because of embarrassment over a parent's drinking. Twenty-eight point eight percent of the seventh graders and 25.5 percent of the eighth graders said that they had wished that their home could be like a friend's home whose parents did not drink. Bruhn and Wolf (1975) found that children with problem drinking parents were more likely to be referred for specialist examinations of physical complaints without any organic cause being discovered. In the present survey 23.7 percent of the seventh graders and 25.5 percent of the eighth graders said that they had wanted to talk with someone who could understand about the problems that they faced in a family where there was a drinking problem, and perhaps this desire to talk with someone manifests itself in these complaints where nothing

physically wrong can be found.

Perhaps the most disturbing statistic of all is where 49.2 percent of the seventh graders and 49.1 percent of the eighth graders indicated that they had wished one or the other of their parent would stop drinking.

## CONCLUSION

Use of alcohol is so prevalent in the United States today that there is a substantial resulting effect on some of the children in our schools. Some of the problems that may be attributable to alcohol abuse in the homes of these school children are: unacceptable classroom behavior, excessive dropout rates, and withdrawal from a variety of school functions.

Thus it becomes:

> Imperative that schools offer programs to improve students' understanding of alcohol and alcoholism. Not only must they learn the facts about alcohol and alcohol abuse, but they must also be equipped with the skills to make responsible decisions when they confront alcohol in their daily lives. Teaching only the facts without also including a decision-making component has the effect of minimizing students' anxiety while potentially increasing their chances of experimentation. Finally, by their design and intent, effective alcohol education programs must encourage youngsters who have personal experiences with alcohol abuse to come forth, either directly or indirectly, for help. A referral system and sources of help must be readily available, (Ostrower, 1977, p. 66).

In addition to investigating the prevalence of alcohol abuse on the lives of our children, we should also examine the relationship of alcohol to separation or divorce of parents, childhood hyperactivity or withdrawal, learning disability, and family attitudes regarding

general health concerns.

Children of alcoholic parents are innocent victims of circumstances over which they have no control. These children need to be identified by all possible means in order to make then understand that they are not to blame for what their parents may do. It is extremely important that they be assisted in developing a positive self-image so they will have a better chance of succeeding in school and later in life regardless of what may occur in their homes.

TABLE 1

| | Percentage of respondents answering yes to survey questions. | | |
|---|---|---|---|
| | 99 7th | 91 8th | Total |
| 1. Have you ever though that one of your parents had a drinking problem? | 30.5 | 40.0 | 35.3 |
| 2. Have you ever lost sleep because of a parent's drinking? | 22.0 | 18.2 | 21.1 |
| 3. Did you even encourage one of your parents to stop drinking? | 30.5 | 29.1 | 29.8 |
| 4. Did you ever feel alone, scared, nervous or angry because a parent did not stop drinking? | 23.7 | 16.4 | 20.5 |
| 5. Did you ever fight or argue with a parent when he or she was drinking? | 20.3 | 34.5 | 27.4 |
| 6. Did you ever threaten to run away from home because of a parent's drinking? | 11.9 | 7.3 | 9.6 |
| 7. Has a parent ever yelled or hit you or other family members when drinking? | 27.1 | 23.6 | 25.3 |
| 8. Have you ever head your parents fight when one of them was drunk? | 35.6 | 34.5 | 35.1 |
| 9. Did you ever protect a family member from a parent who was drunk? | 15.3 | 9.1 | 12.1 |
| 10. Did you ever feel like hiding or emptying a parent's bottle of liquor? | 39.0 | 29.0 | 34.0 |

| | Percentage of respondents answering yes to survey questions. | | |
|---|---|---|---|
| | 7th | 8th | Total |
| 11. Do any of your thoughts revolve around a problem drinking parent or difficulties that arise because of the drinking? | 15.3 | 9.1 | 12.2 |
| 12. Did you ever wish that a parent stopped drinking? | 49.2 | 49.1 | 49.2 |
| 13. Did you ever feel responsible for and guilty about a parent's drinking? | 13.6 | 9.1 | 11.4 |
| 14. Did you ever fear that your parents would get a divorce because of alcohol misuse? | 28.8 | 23.6 | 26.2 |
| 15. Have you ever withdrawn from and avoided outside activities and friends because of embarrassment over a parent's drinking? | 8.5 | 3.6 | 6.1 |
| 16. Did you ever feel caught in the middle of an argument or fight when one parent was drinking? | 25.4 | 21.8 | 23.6 |
| 17. Did you ever feel you made a parent drink? | 8.5 | 5.5 | 7.0 |
| 18. Have you ever felt that a problem drinking parent didn't love you? | 8.5 | 20.0 | 14.3 |
| 19. Did you ever resent a parent's drinking? | 28.8 | 36.4 | 32.6 |
| 20. Have you ever worried about a drinking parent's health? | 44.1 | 34.5 | 39.8 |

| | Percentage of respondents answering yes to survey questions. | | |
|---|---|---|---|
| | 7th | 8th | Total |
| 21. Were you ever blamed for a parent's drinking? | 5.1 | 5.5 | 5.3 |
| 22. Did you ever think you dad was an alcoholic? | 32.2 | 23.6 | 27.9 |
| 23. Did you ever wish your home could be more like a friend whose parents did not drink? | 28.8 | 25.5 | 27.2 |
| 24. Did a drinking parent ever make promises not kept? | 20.3 | 25.5 | 22.9 |
| 25. Did you ever think your mom was an alcoholic? | 10.2 | 10.9 | 10.6 |
| 26. Did you ever want to talk to someone who could understand about alcohol problems in your family? | 23.7 | 25.5 | 24.6 |
| 27. Did you ever fight with a brother or sister about a parent's drinking? | 6.8 | 10.9 | 8.9 |
| 28. Did you ever stay away from home to avoid the drinking parent's reaction to drinking? | 18.6 | 14.5 | 16.6 |
| 29. Have you ever felt sick or cried from worrying about a parent's drinking? | 22.0 | 21.8 | 21.9 |
| 30. Did you ever take over any chores or duties at home that were usually done by a drinking parent? | 13.6 | 10.9 | 12.3 |

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